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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/073,091

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Frederick A. Donahue

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7590

08/24/2005

Gunnar G. Leinberg, Esq.

Nixon Peabody LLP

Clinton Square

P.O. Box 31051

Rochester, NY 14603-1051

EXAMINER

PUNNOOSE, ROY M

ART UNIT

PAPER NUMBER

2877

DATE MAILED: 08/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/073,091	Applicant(s) DONAHUE ET AL.	
	Examiner Roy M. Punnoose	Art Unit 2877	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 May 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. Acknowledgement is made of applicant's amendment filed on May 16, 2005. The applicant has amended claims 1, 11 and 17, and withdrawn from consideration claims 23-30. Accordingly claims 23-30 has been cancelled. Currently claims 1-22 are pending in the application.

2. **Applicant's arguments filed May 16, 2005 have been fully considered but they are not persuasive in view of newly applied prior-art, which was cited as relevant prior-art in PTO-892 mailed on 11/16/2004. Applicant's amendment of claims has necessitated the Examiner to make this office action FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 8-11, 14-17 and 20-22 are rejected under 35 U.S.C. 102(a) as being anticipated by Hoshino et al (US_6,301,047 B1) in view of Covault (US_3,748,484).

5. Claims 1, 8, 11 and 17 are rejected because:

A. Hoshino et al (Hoshino hereinafter) discloses a system comprising, a signal transceiver system 11, 12a, 12b that detects a polarized light signal from the at least one object 1 and

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a signal processing system that identifies at least one characteristic (see col.6, lines 7-8) of the at least one object in response to the detected polarized light signal (see col.4, lines 25-65) for the purpose of identifying at least one object. However Hoshino do not teach that the object reflects polarized light signal without diffracting the polarized light signal in a system for the purpose of identifying at least one object.

- B. Covault discloses a system in which an object reflects polarized light signal without diffracting the polarized light signal (see abstract, col.1, lines 6-9; col.3, line1 – col.4, line 51; Figure 1) in a system for the purpose of identifying at least one object.
- C. In view of Covault's teaching, it would have been obvious to one of ordinary skills in the art at the time the invention was made to incorporate a system in which an object reflects polarized light signal without diffracting the polarized light signal for the purpose of more accurately identifying at least one object because of the absence of any stray light caused by diffraction.
6. Claim 2 is rejected because Hoshino discloses a system for identifying at least one object further comprising a reflective surface 1 (see Figure 1) on at least a portion of the object X.
7. Claims 3, 12 and 18 are rejected because Hoshino discloses a system for identifying at least one object further comprising a photo emitter unit 11 that transmits the polarized light signal towards the object 1 (see Figure 1).
8. Claim 5 is rejected because Hoshino discloses a system for identifying at least one object further comprising a first optical polarizer 13 arranged in a first orientation on at least a portion of the signal transceiver system 11, 12a, 12b with respect to a second optical polarizer 4 arranged

in a second orientation on at least a portion 1 of a reflective surface on the object X (see col.4, line 66- col.5, line 8).

9. Claim 6 is rejected because Hoshino teaches that the first optical polarizer 13 covers at least a portion of the photo emitter unit 11 (see Figure 8).

10. Claim 7 is rejected because Hoshino teaches that the first optical polarizer 13 covers at least a portion of the photo detector unit 12a (see Figure 8).

11. Claims 9, 10, 16 and 22 are rejected because Hoshino discloses all the claim limitations except that the object comprises an ink cartridge or, determine at least one characteristic comprises a low or high capacity, a particular brand, or a presence of an ink cartridge in a printing system so that the quality of ink or the level of ink can be more accurately be determined in a printing system.

In view of Hoshino's teaching of detecting one type of characteristic (see col.6, lines 7-8), it would have been obvious to one of ordinary skills in the art at the time the invention was made to select any desired type of object, such as an ink cartridge, or to determine at least one desired type of characteristic such as determining a low or high capacity, a particular brand, or a presence of an ink cartridge in a printing system so that the quality of ink or the level of ink can be more accurately be determined in a printing system.

12. Claims 14, 15, 20 and 21 are rejected because Hoshino discloses all the claim limitations except for the explicit teaching of reflecting the transmitted polarized light signal off of a reflective surface on the object when the transmitted polarized light signal has a polarization that is substantially the same as the polarization of an optical polarizer covering at least a portion of the reflective surface, or, receiving the polarized light signal at a photo detector unit when the

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polarized light signal has a polarization that is substantially the same as the polarization of an optical polarizer covering at least a portion of the photo detector unit so that certain characteristics of the object can be more accurately be determined in a detection system.

In view of Hoshino's teaching of reflecting the transmitted polarized light signal off of a reflective surface on the object when the transmitted polarized light signal has a predetermined polarization (see col.4, line 66- col.5, line 8), and receiving the polarized light signal at a photo detector unit when the polarized light signal has a predetermined polarization, it would have been obvious to one of ordinary skills in the art at the time the invention was made to select a desired polarization orientation for said transmitted or reflected light to or from the object, so that certain characteristics of the object can be more accurately be determined in a detection system.

13. Claims 4, 13 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hoshino et al (US_6,301,047 B1)) in view of Covault (US_3,748,484) and further in view of Stevens (US_6,583,415 B2).

Claims 4, 13 and 19 are rejected because:

- A. Hoshino and Covault discloses all the claim limitations except that the transceiver further comprises a drive unit that rotates the photo emitter unit, the signal processing system controlling the drive unit and causing the photo emitter unit to transmit the polarized light signal towards the object, so that certain characteristics of the object can be more accurately be determined in a detection system.
- B. Stevens teaches a rotating polarizer 110 (see Figure 1A, col.4, lines 12-58) to detect polarized or other type of light directly from a light source or reflected light in order to

detect light of a certain polarization orientation so that certain characteristics of the object can be more accurately be determined in a detection system.

- C. In view of Stevens's teaching, it would have been obvious to one of ordinary skills in the art at the time the invention was made to rotate the photo emitter unit, the signal processing system controlling the drive unit and causing the photo emitter unit to transmit the polarized light signal towards the object, so that certain characteristics of the object can be more accurately be determined in a detection system.

Conclusion

14. The arguments presented by the applicant are not convincing in view of the newly applied prior-art. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

15. A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.


16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Roy M. Punnoose** whose telephone number is **571-272-2427**.

The examiner can normally be reached on 9:00 AM - 5:30 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Gregory J. Toatley, Jr.** can be reached on **571-272-2800 ext.77**. The fax phone number for the organization where this application or proceeding is assigned is **703-872-9306**.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Roy M. Punnoose
Patent Examiner
Art Unit 2877
August 22, 2005


Gregory J. Toatley, Jr.
Supervisory Patent Examiner
22 AUG 05